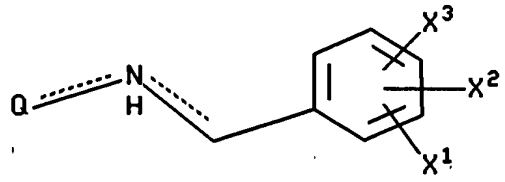
CLAIMS

1. A compound of the formula

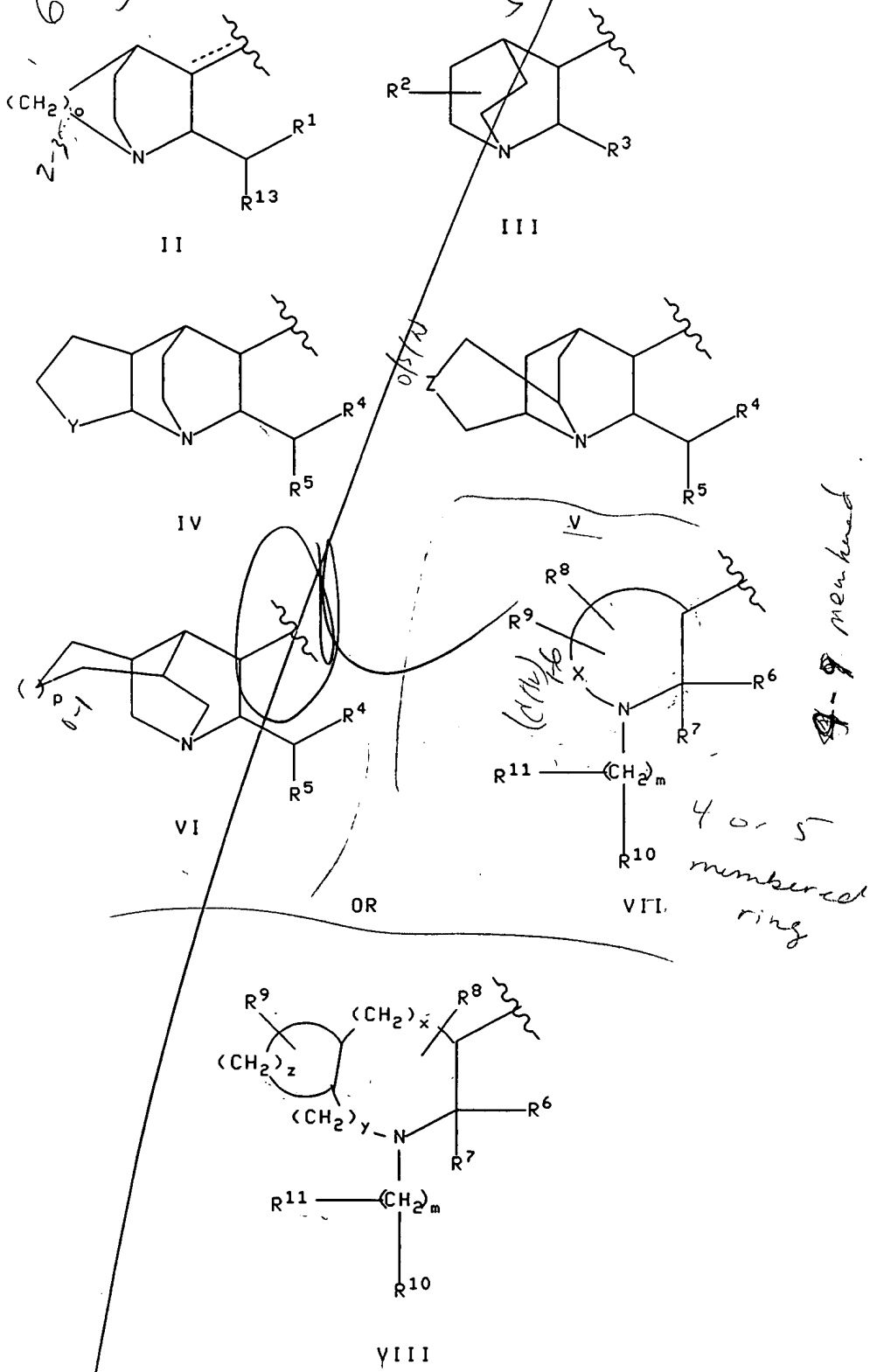


I

wherein X^1 is hydrogen, (C_1-C_{10}) alkoxy optionally substituted with from one to three fluorine atoms or (C_1-C_{10}) alkyl optionally substituted with from one to three fluorine atoms;

X^2 and X^3 are independently selected from halo, hydrogen, nitro, (C_1-C_{10}) alkyl optionally substituted with from one to three fluorine atoms, (C_1-C_{10}) alkoxy optionally substituted with from one to three fluorine atoms, trifluoromethyl, hydroxy, phenyl, cyano, amino, (C_1-C_6)-alkylamino, di-(C_1-C_6)alkylamino, $-\overset{O}{\overset{\|}{C}}-NH-(C_1-C_6)$alkyl, (C_1-C_6)alkyl$-\overset{O}{\overset{\|}{C}}-NH-(C_1-C_6)$alkyl, hydroxy$(C_1-C_4)$alkyl, (C_1-C_4)alkoxy(C_1-C_4)alkyl, $-NH\overset{O}{\overset{\|}{C}}H$ and $-NH\overset{O}{\overset{\|}{C}}-(C_1-C_6)$alkyl; and

Q is a group of the formula


II
III
IV
V
VI
VII
OR
VIII

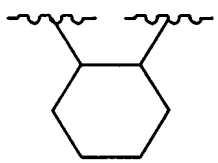
wherein R^1 is a radical selected from furyl, thienyl, pyridyl, indolyl, biphenyl and phenyl optionally substituted with one or two substituents independently selected from halo, (C_1-C_{10}) alkyl optionally substituted with from one to three fluorine atoms, (C_1-C_{10}) alkoxy optionally substituted with from one to three fluorine atoms, carboxy, benzyloxycarbonyl and (C_1-C_3) alkoxy-carbonyl;

R^{13} is selected from (C_3-C_4) branched alkyl, (C_5-C_6) branched alkenyl, (C_5-C_7) cycloalkyl, and the radicals named in the definition of R^1;

R^2 is hydrogen or (C_1-C_6) alkyl;

R^3 is phenyl, biphenyl, naphthyl, pyridyl, benzhydryl, thienyl or furyl, and R^3 may optionally be substituted with from one to three substituents independently selected from halo, (C_1-C_{10}) alkyl optionally substituted with from one to three fluorine atoms and (C_1-C_{10}) alkoxy optionally substituted with from one to three fluorine atoms;

Y is $(CH_2)_l$ wherein l is an integer from one to three, or Y is a group of the formula



(J)

;

Z is oxygen, sulfur, amino, (C_1-C_3)alkylamino or $(CH_2)_n$ wherein n is zero, one or two;

o is two or three;

p is zero or one;

R^4 is furyl, thienyl, pyridyl, indolyl, biphenyl, or phenyl optionally substituted with one or two substituents independently selected from halo, (C_1-C_{10}) alkyl optionally substituted with from one to three fluorine atoms, (C_1-C_{10}) alkoxy optionally substituted with from one to three fluorine atoms, carboxy, (C_1-C_3) alkoxy-carbonyl and benzyloxycarbonyl;

R^5 is thienyl, biphenyl or phenyl optionally substituted with one or two substituents independently selected from halo, (C_1-C_{10}) alkyl optionally substituted with from one to three fluorine atoms and (C_1-C_{10}) alkoxy optionally substituted with from one to three fluorine atoms;

each of the two dashed lines in formula I and the dashed line in formula II represent an optional double bond that may optionally exist when Q is a group of the formula II;

X is $(CH_2)_q$ wherein q is an integer from 1 to 6, and wherein any one of the carbon-carbon single bonds in said $(CH_2)_q$ may optionally be replaced by a carbon-carbon double bond, and wherein any one of the carbon atoms of said $(CH_2)_q$ may optionally be substituted with R^8, and wherein any one of the carbon atoms of said $(CH_2)_q$ may optionally be substituted with R^9;

m is an integer from 0 to 8, and any one of the carbon-carbon single bonds of $(CH_2)_m$ may optionally be replaced by a carbon-carbon double bond or a carbon-carbon triple bond, and any one of the carbon atoms of said $(CH_2)_m$ may optionally be substituted with R^{11};

R^6 is a radical selected from hydrogen, (C_1-C_6) straight or branched alkyl, (C_3-C_7) cycloalkyl wherein one of the carbon atoms may optionally be replaced by nitrogen, oxygen or sulfur; aryl selected from biphenyl, phenyl, indanyl and naphthyl; heteroaryl selected from thienyl, furyl, pyridyl, thiazolyl, isothiazolyl, oxazolyl, isoxazolyl, triazolyl, tetrazolyl and quinolyl; phenyl (C_2-C_6) alkyl, benzhydryl and benzyl, wherein each of said aryl and heteroaryl groups and the phenyl moieties of said benzyl, phenyl (C_2-C_6) alkyl and benzhydryl may optionally be substituted with one or more substituents independently selected from halo, nitro, (C_1-C_{10}) alkyl optionally substituted with from one to three fluorine atoms, (C_1-C_{10}) alkoxy optionally substituted with from one to three fluorine atoms, amino, hydroxy-(C_1-C_6)alkyl, (C_1-C_6)alkoxy-(C_1-C_6)alkyl,

(C_1-C_6)-alkylamino, (C_1-C_6)alkyl-O-C(=O)-, (C_1-C_6) alkyl-O-C(=O)-(C_1-C_6)alkyl, (C_1-C_6)alkyl-C(=O)-O-, (C_1-C_6)alkyl-C(=O)-(C_1-C_6)alkyl-O-, (C_1-C_6)alkyl-C(=O)-, (C_1-C_6)alkyl-C(=O)-(C_1-C_6)alkyl-, di-(C_1-C_6)alkylamino, -CNH-(C_1-C_6)alkyl, (C_1-C_6)-alkyl-C(=O)-NH-(C_1-C_6)alkyl, -NHCH and -NHC(=O)-(C_1-C_6) alkyl; and wherein one of the phenyl moieties of said benzhydryl may optionally be replaced by naphthyl, thienyl, furyl or pyridyl;

R^7 is hydrogen, phenyl or (C_1-C_6)alkyl;

or R^6 and R^7, together with the carbon to which they are attached, form a saturated carbocyclic ring having from 3 to 7 carbon atoms wherein one of said carbon atoms may optionally be replaced by oxygen, nitrogen or sulfur;

R^8 and R^9 are each independently selected from hydrogen, hydroxy, halo, amino, oxo (=O), nitrile, hydroxy-(C_1-C_6)-alkyl, (C_1-C_6)alkoxy-(C_1-C_6)alkyl, (C_1-C_6)alkylamino, di-(C_1-C_6)alkylamino, (C_1-C_6)alkoxy, (C_1-C_6)alkyl-O-C(=O)-, (C_1-C_6)alkyl-O-C(=O)-(C_1-C_6)alkyl, (C_1-C_6)alkyl-C(=O)-O-, (C_1-C_6)alkyl-C(=O)-(C_1-C_6)alkyl-O-, (C_1-C_6)alkyl-C(=O)-, (C_1-C_6)alkyl-C(=O)-(C_1-C_6)alkyl-, and the radicals set forth in the definition of R^6;

R^{10} is $NHCR^{12}$ (O), $NHCH_2R^{12}$, $NHSO_2R^{12}$ or one of the radicals set forth in any of the definitions of R^6, R^8 and R^9;

R^{11} is oximino (=NOH) or one of the radicals set forth in any of the definitions of R^6, R^8 and R^9; and

R^{12} is (C_1-C_6)alkyl, hydrogen, phenyl(C_1-C_6)alkyl or phenyl optionally substituted with (C_1-C_6)alkyl;

with the proviso that (a) when m is 0, R^{11} is absent, (b) neither R^8, R^9, R^{10} nor R^{11} can form, together with the carbon to which it is attached, a ring with R^7, (c) when Q is a group of the formula VIII, R^8 and R^9 cannot be attached to the same carbon atom, (d) when R^8 and R^9 are attached to the same carbon atom, then either each of R^8 and R^9 is independently selected from hydrogen, fluoro, (C_1-C_6) alkyl, hydroxy-(C_1-C_6)alkyl and (C_1-C_6)alkoxy-(C_1-C_6)alkyl, or R^8 and R^9, together with the carbon to which they are attached, form a (C_3-C_6) saturated carbocyclic ring that forms a spiro compound with the nitrogen-containing ring to which they are attached, (e) the nitrogen of formula I can not be double bonded to both Q and the substituted benzyl group to which it is attached, (f) when Q is a group of the formula VII and q is 2 and either R^8 or R^9 is 5-hydroxy-(C_1-C_6)alkyl or 5-(C_1-C_6)alkoxy-(C_1-C_6)alkyl, then the other of R^8 and R^9 is either 5-(C_1-C_6)alkyl or hydrogen; (g) when Q is a group of the formula VII and q is 2, then neither R^8 nor R^9 is 4-hydroxy-(C_1-C_6)alkyl or 4-(C_1-C_6)alkoxy-(C_1-C_6)alkyl, and (h) when neither X^1, X^2 nor X^3 is a fluorinated alkoxy group, at least one of R^1, R^3, R^4, R^5, R^6, R^7 and R^{13} is an aryl group substituted with a fluorinated alkoxy group;

or a pharmaceutically acceptable salt thereof.

2. A compound according to claim 1, wherein Q is a group of the formula II wherein o is two or three and each of R^1 and R^{13} is phenyl or substituted phenyl.

3. A compound according to claim 1 wherein Q is a group of the formula III, R^2 is hydrogen and R^3 is phenyl or substituted phenyl.

4. A compound according to claim 1 wherein Q is a group of the formula IV wherein l is one or two and each of R^4 and R^5 is phenyl or substituted phenyl.

5. A compound according to claim 1 wherein Q is a group of the formula V wherein n is zero or one and each of R^4 and R^5 is phenyl or substituted phenyl.

6. A compound according to claim 1 wherein Q is a group of the formula VI wherein p is one and each of R^4 and R^5 are phenyl or substituted phenyl.

7. A compound according to claim 1 wherein Q is a group of the formula VIII wherein y is zero, x is zero or one, z is three or four, m is zero and R^6 is phenyl or substituted phenyl.

8. A compound according to claim 1, wherein said compound is (2S,3S)-2-phenyl-3-[2-(2,2,2-trifluoroethoxy)-benzyl]aminopiperidine.

9. A compound according to claim 1, wherein said compound is (2S,3S)-3-(2-methoxy-5-trifluoromethoxybenzyl)-amino-2-phenylpiperidine.

10. A compound according to claim 1, wherein said compound is (2S,3S)-3-(2-hydroxy-5-trifluoromethoxybenzyl)-amino-2-phenylpiperidine.

11. A compound according to claim 1, wherein said compound is (2S,3S)-2-phenyl-3-(3-trifluoromethoxybenzyl)-aminopiperidine.

12. A compound according to claim 1, wherein said compound is (2S,3S)-1-(5,6-dimethoxyhexyl)-3-(2-methoxy-5-trifluoromethoxybenzyl)amino-2-phenylpiperidine.

13. A compound according to claim 1, wherein said compound is (2S,3S)-2-phenyl-3-(2-trifluoromethoxybenzyl)-aminopiperidine.

14. A compound according to claim 1, wherein said compound is (2S,3S)-3-[5-chloro-2-(2,2,2-trifluoroethoxy)-benzyl]amino-2-phenylpiperidine.

15. A compound according to claim 1, wherein said compound is (2S,3S)-3-(5-t-butyl-2-trifluoromethoxy-benzyl)amino-2-phenylpiperidine.

16. A compound according to claim 1, wherein said compound is 3-(5-tert-butyl-2-methoxybenzyl)amino-2-(3-trifluoromethoxyphenyl)piperidine.

17. A compound according to claim 1, wherein said compound is 3-(2-isopropoxy-5-trifluoromethoxybenzyl)amino-2-phenyl)piperidine.

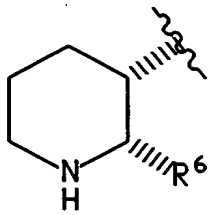
18. A compound according to claim 1, wherein said compound is 3-(2-difluoromethoxy-5-trifluoromethoxybenzyl)-amino-2-phenylpiperidine.

19. A compound according to claim 1, wherein X^1 is 5-trifluoromethoxy, X^2 is hydrogen and X^3 is 2-methoxy.

20. A compound according to claim 1 wherein X^1 is 2-trifluoromethoxy and each of X^2 and X^3 is hydrogen.

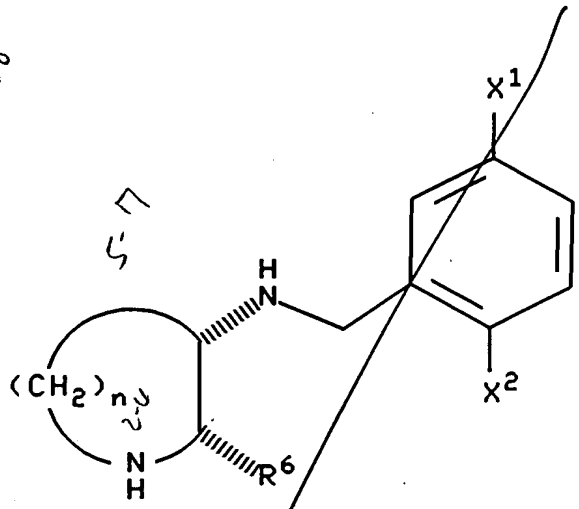
21. A compound according to claim 1, wherein X^1 is 2-(2,2,2-trifluoroethoxy) and each of X^2 and X^3 is hydrogen.

22. A compound according to claim 1 wherein Q is a group of the formula



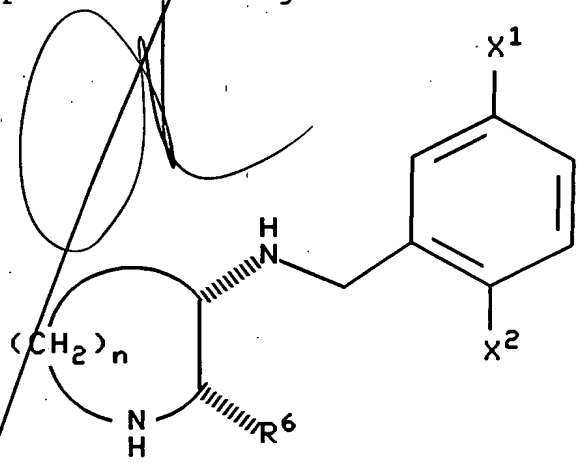
wherein X^1 is 2-trifluoromethoxy, 2-methoxy or 2-(2,2,2-trifluoroethoxy), X^2 is 5-halo, 5-(C_1-C_6) alkyl, or 5-(C_1-C_6) alkoxy optionally substituted with from one to three fluorine atoms, and R^6 is substituted or unsubstituted phenyl.

23. A compound according to claim 1 having the formula



wherein n is an integer from 2 to 4, X^1 is hydrogen or (C_1-C_4)alkyl, X^2 is OCF_3 or $OCHF_2$, and R^6 is phenyl optionally substituted with a substituent selected from (C_1-C_4)alkyl, (C_1-C_4)alkoxy, fluorine and chlorine.

24. A compound according to claim 1 having the formula



wherein n is an integer from 2 to 4, X^1 is OCF_3 or $OCHF_2$, X^2 is (C_1-C_4)alkoxy, and R^6 is phenyl optionally substituted with a substituent selected from (C_1-C_4)alkyl, (C_1-C_4)alkoxy, fluorine and chlorine.

25. A compound according to claim 1, wherein each of R^1, R^3, R^4, R^6 and R^{13}, if present, is selected from phenyl optionally substituted with (C_1-C_4) alkyl, (C_1-C_4) alkoxy, fluorine, chlorine or trifluoromethoxy, each of R^2, R^7, R^8, R^9

and R^{10}, if present, is hydrogen, and m is zero if Q is a group of the formula VII or VIII.

26. A pharmaceutical composition for treating or preventing a condition selected from the group consisting of inflammatory diseases, anxiety, colitis, depression or dysthymic disorders, psychosis, pain, gastroesophageal reflux disease, allergies, chronic obstructive airways disease, hypersensitivity disorders, vasospastic diseases, fibrosing and collagen diseases, reflex sympathetic dystrophy, addiction disorders, stress related somatic disorders, peripheral neuropathy, neuralgia, neuropathological disorders, disorders related to immune enhancement or suppression and rheumatic diseases in a mammal, comprising an amount of a compound according to claim 1 effective in preventing or treating such condition and a pharmaceutically acceptable carrier.

27. A method of treating or preventing a condition selected from the group consisting of inflammatory diseases anxiety, colitis, depression or dysthymic disorders, psychosis, pain, gastroesophageal reflux disease, allergies, chronic obstructive airways disease, hypersensitivity disorders, vasospastic diseases, fibrosing and collagen diseases, reflex sympathetic dystrophy, addiction disorders, stress related somatic disorders, peripheral neuropathy, neuralgia, neuropathological disorders, disorders related to immune enhancement or suppression and rheumatic diseases in a mammal, comprising administering to a mammal in need of such treatment or prevention an amount of a compound according to claim 1 effective in preventing or treating such condition.

28. A pharmaceutical composition for antagonizing the effects of substance P in a mammal, comprising a substance P antagonizing effective amount of a compound according to claim 1 and a pharmaceutically acceptable carrier.

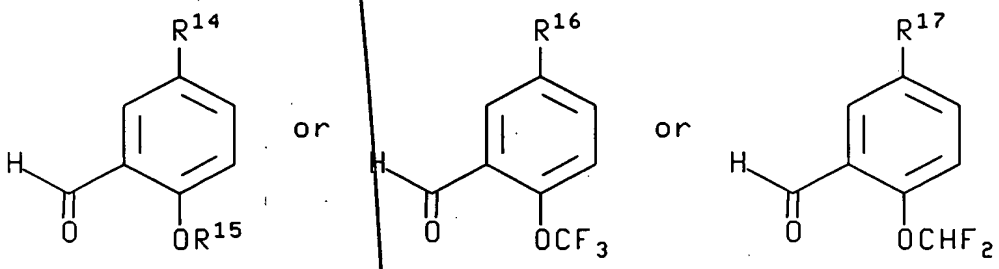
29. A method of antagonizing the effects of substance P in a mammal, comprising administering to said mammal a

substance P antagonizing effective amount of a compound according to claim 1.

30. A pharmaceutical composition for treating or preventing a condition in a mammal, the treatment or prevention of which is effected or facilitated by a decrease in substance P mediated neurotransmission, comprising an amount of a compound according to claim 1, or a pharmaceutically acceptable salt thereof, effective in treating or preventing such condition and a pharmaceutically acceptable carrier.

31. A method of treating or preventing a condition in mammal, the treatment or prevention of which is effected or facilitated by a decrease in substance P mediated neurotransmission, comprising administering to a mammal in need of such treatment or prevention an amount of a compound according to claim 1 effective in treating or preventing such condition.

32. A compound of the formula



wherein R^{14} trifluoromethoxy or difluoromethoxy, R^{15} is (C_1-C_4)alkyl, R^{16} is difluoromethoxy or (C_1-C_4)alkyl and R^{17} is trifluoromethoxy, difluoromethoxy, (C_1-C_4)alkyl or (C_1-C_4)alkoxy.